



DEPARTMENT OF TRANSPORTATION

National Highway Traffic Safety Administration

49 CFR Part 571

Federal Motor Vehicle Safety Standards;

Child Restraint Systems

Denial of Petition for Rulemaking

AGENCY: National Highway Traffic Safety Administration (NHTSA), Department of Transportation.

ACTION: Denial of petition for rulemaking.

SUMMARY: This document denies a petition for rulemaking from Jewkes Biomechanics (Jewkes) requesting that NHTSA amend Federal Motor Vehicle Safety Standard (FMVSS) No. 213, “Child restraint systems,” to remove a requirement that child restraint systems (CRSs) must meet performance requirements without use of a top tether, or exclude from that requirement a new kind of CRS that the petitioner would like to develop called a “hybrid CRS.” Alternatively, the petitioner requests that the definition of a “harness” in FMVSS No. 213 be amended to include its hybrid CRS. NHTSA is denying the petition because the requested amendments would unreasonably reduce the child occupant protection provided by FMVSS No. 213.

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I. BACKGROUND

FMVSS No. 213 specifies performance and other requirements for child restraint systems to reduce the number of children killed or injured in motor vehicle crashes.¹ Under FMVSS No. 213, “child restraint systems” are devices, except vehicle lap or lap/shoulder belts, designed for use in a motor vehicle to restrain, seat, or position children weighing 36 kilograms (80 pounds) or less. S5(b) requires each child restraint system to meet the requirements of the standard when tested in accordance with S6.1 and S5. Among other tests is a dynamic frontal sled test involving a 48-kilometer per hour (km/h) (30-mile per hour (mph)) velocity change. NHTSA dynamically tests CRSs with anthropomorphic test devices (test dummies) of sizes representing the children for whom the CRS is designed.

S6.1 specifies the conditions and procedures for the dynamic sled test. Under S6.1.2(a)(1)(B), NHTSA may test a CRS without a top tether attached.² One of the dynamic performance requirements for forward-facing CRSs tested in the untethered condition is an 813 mm (32 inch) limit on head excursion. Head excursion refers to the distance the test dummy's head moves forward during the dynamic test (S5.1.3.1(a)(1)).³ The limit on head excursion reduces the likelihood of a child head's striking harmful objects or surfaces in a crash. The

¹ 49 CFR 571.213, “Child restraint systems.” All references to subparagraphs in this denial of the petition for rulemaking are to FMVSS No. 213 unless otherwise noted. All references in this document to the requirements in FMVSS No. 213 are to the requirements for “add-on” (portable) CRSs (as opposed to “built-in” CRSs). (*See* S4 of 49 CFR 571.213 for definitions of these terms.) NHTSA published a notice of proposed rulemaking (NPRM) on November 2, 2020 proposing updates to FMVSS No. 213, including updating the standard seat assembly used to test CRSs in NHTSA's compliance tests (85 FR 69388).

² In this document, the terms “tether,” “top tether” and the like also include other supplementary features that must be attached by the consumer separately from the lower anchorages of a child restraint anchorage system or seat belt to install the CRS to the vehicle seat.

³ In addition, S5.1.3.1(a)(1) also requires CRSs to provide enhanced head protection by way of a 720 mm (28 inch) head excursion limit. This requirement may be met through attachment of a tether strap.

CRSs must also meet other dynamic performance requirements without use of a tether, including limits on the head and chest acceleration of the test dummies during the sled test (S5.1.2.1). This document refers to the requirement that CRSs meet FMVSS No. 213 without using the tether as the “untethered test requirement.”

The purpose of the untethered test requirement is to ensure that CRSs provide at least a minimum level of adequate protection when the tether strap is not attached. When a tether strap is properly attached, a forward-facing child restraint equipped with a tether strap will generally offer the best protection for child occupants. However, survey results have continuously shown that tether straps are not widely used by caregivers to secure CRSs in vehicles. Recent studies from NHTSA’s National Child Restraint Use Special Study (NCRUSS)⁴ and the Insurance Institute for Highway Safety (IIHS)⁵ show that tether use is low in the field, as it has been since the initial implementation of FMVSS No. 213. NCRUSS found that the overall tether use in forward-facing CRSs with internal harnesses was 42 percent. Tether use was 71 percent when the CRS was attached with the lower anchorages of a child restraint anchorage system and 31 percent when the CRS was attached with seat belts. IIHS researchers analyzed data from 479 vehicle observations and found that the top tether was used only 56 percent of the time.

To address this problem, FMVSS No. 213 requires forward-facing CRSs, with certain limited exceptions, to meet the standard’s minimum performance requirements without attachment of a tether. In that way, children will be afforded at least a minimum level of adequate occupant protection even if the caregiver does not attach the tether. That untethered test requirement applies to the restraint that Jewkes seeks to develop.

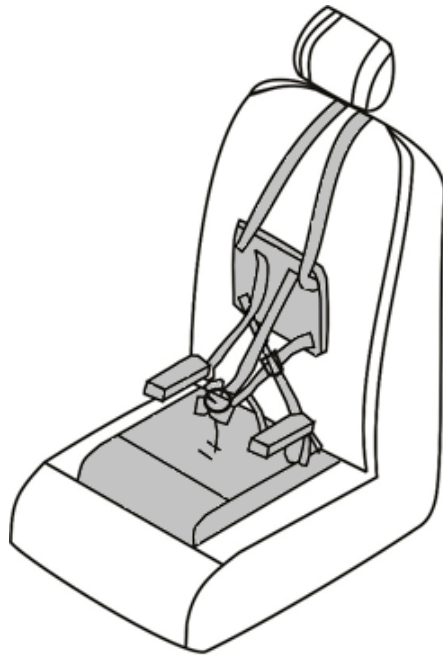
⁴ National Child Restraint Use Special Study, DOT HS 811 679, <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812142>. NCRUSS is a large-scale nationally-representative survey that involves both an inspection of the child passenger’s restraint system by a certified child passenger safety technician and a detailed interview of the driver. Between June and August 2011, the survey collected information on drivers and child passengers ages 0-8 years.

⁵ Eichelberger, A. H., Decina, L.E., Jermakian, J. S., McCartt, A. T., “Use of top tether with forward facing child restraints: Observations and driver interviews,” Insurance Institute for Highway Safety, April 2013. IIHS surveyed collected data at roughly 50 suburban sites near Fredericksburg, VA., Philadelphia, PA, Seattle, WA, and Washington, D.C. Shopping centers, recreation facilities, child-care centers, car-seat checkpoints and health-care facilities were among the locations.

II. PETITION FOR RULEMAKING

Jewkes submitted a petition for rulemaking, dated February 21, 2017, requesting NHTSA to either: (a) remove the untethered test requirement; or (b) classify a child restraint system the petitioner would like to develop as a new type of CRS (“hybrid CRS”), and exclude these restraints from the standard’s untethered test requirement. The petitioner states that the untethered test requirement “automatically disqualifies use of so-called ‘hybrid’” child restraints. NHTSA understands the statement to mean that the child restraints cannot meet the untethered test requirement of FMVSS No. 213.

Jewkes describes a hybrid CRS as “a CRS with a flexible connection between car-seat bottom and back...with a five-point harness.” Jewkes provided a schematic drawing of “a type of hybrid CRS,” which NHTSA has reproduced in Figure 1 below.⁶ The petitioner suggests FMVSS No. 213 define a hybrid CRS as “an add-on forward facing CRS with five-point harness using a combination of flexible materials connecting a rigid seat-bottom to a seat-back structure.”



⁶ To view a copy of the petition, see <https://www.regulations.gov/document?D=NHTSA-2017-0007-0004>. The schematic drawing in the petition was not clear, so NHTSA enhanced the outlines so the schematic could be published in this document. It appears the schematic is showing a hybrid CRS positioned on a vehicle seat with a head restraint.

Figure 1. Schematic drawing provided by the petitioner of a “hybrid CRS” on a vehicle seat (drawing enhanced by NHTSA to improve clarity)

Alternatively, Jewkes suggests that NHTSA amend the existing “harness” definition in FMVSS No. 213 so that the definition includes child restraints such as the petitioner’s hybrid CRS.⁷ The aim of this approach is to exclude the subject CRSs from the untethered test requirement on the basis that they are “harnesses,” as currently, under FMVSS No. 213, harnesses are not subject to the requirement.

The petitioner claims that there is no need for hybrid CRSs to be subject to an untethered test requirement because caregivers would know to attach the tether. It did not provide data supporting this assertion. Jewkes notes its belief that, due to the untethered test requirement, child restraints must have a “rigid junction” between the child restraint’s seat bottom and the CRS seat back. The petitioner states, without providing supporting data, that CRSs with a rigid junction between the CRS bottom and back—

appear to average users to function equally well with and without top-tether. As such, users do not recognize the necessity for top-tether use to increase their child’s safety and, thus, fail to utilize the top tether. By contrast, the need to use the top tether with the hybrid CRS is readily apparent, because the shoulder harness is not accessible without it. As such, misuse of the car seat by omitting the top tether—the primary reason FMVSS No. 213 [sic] requires compliance without top tether use—is negligible in the case of the hybrid CRS. Because the hybrid CRS does not necessitate concern for use without top-tether, it should be exempted from FMVSS No. 213 as petitioned.

Moreover, the petitioner asserts that its hybrid CRS is a “lighter species of the five-point restraint” and a “remedy” to “several drawbacks” caused by the untethered test requirement. Jewkes states that, due to the untethered test requirement, the “rigid junction” between a CRS’s seat bottom and seat back creates bulk which “can compromise child safety in several ways.” The petitioner lists what it believes to be five advantages its devices have over CRSs with “rigid junctions.” NHTSA addresses those views later in the section below.

⁷ FMVSS No. 213 (S4) defines a “harness” as “a combination pelvic and upper torso child restraint system that consists primarily of flexible material, such as straps, webbing or similar material, and that does not include a rigid seating structure for the child.” The petitioner’s restraint system does not meet this definition; it has a rigid seating structure.

III. DISCUSSION

a. NHTSA Denies the Request to Remove the Untethered Test Completely

NHTSA denies the request to remove the untethered test requirement in FMVSS No. 213 as applied to all CRSs. The untethered test requirement ensures that CRSs provide at least a minimum level of adequate protection when the tether strap is not attached. As noted above in this preamble, NCRUSS and IIHS data show that tether nonuse continues to be a problem. Thus, the untethered test requirement serves an important safety need. Jewkes did not provide any data or rationale supporting its request. NHTSA concludes that the requested amendment would subject children to an unacceptable risk of injury in crashes and does not meet the need for motor vehicle safety.

b. NHTSA Denies the Request to Remove the Untethered Test for Hybrid CRSs

The Agency also denies the request to exclude the petitioner's "hybrid" child restraints from the untethered test requirement. The petitioner asserts that the untethered test is unnecessary for hybrid CRSs because caregivers will know to tether the restraint. Jewkes did not provide any data supporting this proposition. Furthermore, the data that are available to NHTSA do not support that view.

Studies have shown that caregivers do not use the tether anchorage because they are not familiar with it or do not know what it is for. A 2006 study by Decina et al.⁸ found that 61 percent of upper tether nonusers cited their lack of knowledge—not knowing what the tethers were, that they were available in the vehicle, the importance of using them, or how to properly use them—as the reason for not using them. The study did not find that consumers were forgoing tether use because they believed that CRSs with "rigid junctions" "appear...to function equally well with and without top-tether," as Jewkes asserts.

⁸ Decina, L.E. et al. "Child Restraint Use Survey: LATCH Use and Misuse." December 2006. DOT HS 810 679. Link: <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/810679>.

Similarly, a 2013 study by IIHS⁹ showed that the top reasons for not using the tether were:

- 22% did not know it was there,
- 15% did not know how to use,
- 13% in a hurry/not enough time to use it,
- 10% did not know where to attach the tether,
- 9% did not think it was important or needed,
- 9% did not know they had tether anchors in their vehicle and,
- 5% had no anchor for the seating position.

None of the reasons listed above for not using the tether specifically include a belief that the CRS, installed with no tether, has comparable performance to a tethered CRS.

The petitioner also claims that the need to use the tether with the hybrid CRS is “readily apparent, because the shoulder harness is not accessible without it.” The petitioner did not provide any data to support this assertion. Further, from the sketch provided by Jewkes in its petition and from the “hybrid CRS” definition it suggests, NHTSA cannot conclude that it is “readily apparent” that the tether must be used. Nothing in the sketch or the definition would prevent a user from “accessing” the shoulder harness of a hybrid CRS if the tether were not used. Given the findings of the Decina and IIHS studies which showed a substantial degree of unfamiliarity and unawareness on the part of consumers with tethers, NHTSA does not believe it should be assumed that consumers will automatically know or make the effort to attach the tether of a “hybrid CRS.”

The consequences of a caregiver’s not attaching the tether on a hybrid CRS can be severe. For example, a child in an untethered hybrid CRS would experience excessive head excursion and a high risk of head injury due to impacts with structures or objects in front of the

⁹ Eichelberger A.H., et al. “Use of top tethers with forward-facing child restraints: observations and driver interviews.” Link to public presentation http://www.iihs.org/media/85044cce-4c80-4818-b1d5-75a695f6924d/R3iBdw/Presentations/Eichelberger_tethers_Lifesavers.pdf.

seat.¹⁰ Data from the National Automotive Sampling System - Crashworthiness Data System (NASS-CDS)¹¹ for the years 1995-2009 show that 39 percent of Abbreviated Injury Scale (AIS) 2+¹² injuries to restrained children in frontal crashes are to the head and face, with 59 percent of these injuries due to contact with the seat and back support. In a study of 28 cases of children ages 0 to 15 who sustained AIS 2+ head or face injuries in a frontal crash, Arbogast et al. (2012) found that the front row seat back and the B-pillar were the most commonly contacted components.¹³ The petitioner provided no data showing a lack of a safety need for the untethered test for children in hybrid CRSs. The requested amendment does not meet the need for motor vehicle safety and is denied.

c. The Requested Amendment's Possible Adverse Effect on Child Occupant Protection

The petitioner asserts that children are safer in a hybrid CRS compared to CRSs with a “rigid junction.” (NHTSA understands from the petition that CRSs with a “rigid junction” consist of a rigid seat bottom and rigid seat back, with a rigid side structure.) Although the petitioner did not specify the ages of the children for whom its product is intended, NHTSA gathers from the petition that hybrid CRSs would be for children weighing less than 30 or 40 pounds, who now use what is commonly known as a “car safety seat” (rather than a booster seat). For simplicity, hereinafter the agency will use “car safety seat” in referring to the CRSs that Jewkes describes as having a “rigid junction between seat-bottom and seat back.” These car safety seats with “a rigid junction between the seat-bottom and seat back” have an internal harness to restrain the child (and are different from high back booster seats, which do not have internal harnesses).

¹⁰ The petitioner provided no information on how head and chest accelerations on the child could be affected if the hybrid CRS were untethered in a crash.

¹¹ In 2016, NASS-CDS was replaced with the Crash Investigation Sampling System (CISS).

¹² The Abbreviated Injury Scale is a 6-point ranking system used for ranking the severity of injuries. AIS2+ injuries are injuries of severity level 2 (moderate), 3 (serious), 4 (severe), and 5 (critical) according to the Abbreviated Injury Scale. www.aaam.org.

¹³ Arbogast, K. B., S. Wozniak, Locey, C.M., Maltese, M.R., and Zonfrillo, M.R. (2012). Head impact contact points for restrained child occupants. *Traffic Injury Prevention*, 13(2):172-81.

The petitioner provided no data supporting its argument that children will be safer in a hybrid CRS than in a car safety seat. To the contrary, NHTSA believes children are afforded greater protections in a car safety seat because FMVSS No. 213 requires car safety seats to provide adequate occupant protection (limiting a child's head excursion, and head and chest accelerations) even when the tether is not used. With tether use rates as low as they are (e.g., NCRUSS, *supra*, found that the overall tether use was only 42 percent), NHTSA believes that a large portion of hybrid CRSs may similarly be used untethered. While petitioner asserts that hybrid CRS would not face the same type of untethered use, it does not support this assertion with data, and the risks presented by any potential misuse are high. The untethered test requirement ensures that a child's head would be reasonably protected against head impacts in an untethered car safety seat. That same child's head would be almost totally unprotected in an untethered hybrid CRS; the restraint would have no structure to keep the child's torso from rotating forward.

Another reason children would be more protected in a car safety seat than in hybrid CRSs is that car safety seats have a padded back and padded side structure that protect the head and torso of a restrained child in side crashes. Impacts to the side of a vehicle rank almost equal to frontal crashes as a source of occupant fatalities and serious injuries to children ages 0 to 12. In response to a safety need to improve side impact protection and pursuant to the Moving Ahead for Progress in the 21st Century Act (MAP-21), NHTSA has proposed side impact protection requirements for CRSs manufactured for children weighing up to 18 kilograms (40 pounds), and is in the process of finalizing these requirements.¹⁴

¹⁴ Section 31501(a) of MAP-21 states that the Secretary of Transportation (authority delegated to NHTSA) shall issue a final rule amending FMVSS No. 213 to "improve the protection of children seated in child restraint systems during side impact crashes." NHTSA published an NPRM on January 28, 2014, proposing to amend FMVSS No. 213 to adopt side impact performance requirements for CRSs designed to seat children in a weight range that includes weights up to 18 kilograms (40 pounds) (79 FR 4570, Docket No. NHTSA-2014-0012). See Fall 2020 Unified Agenda of Regulatory and Deregulatory Actions, <https://www.reginfo.gov/public/do/eAgendaMain>, and search for Regulation Identifier Number 2127-AK95.

NHTSA found in conducting its research for the side impact rulemaking that the padded side structure (wings) on current car safety seats appear to be soundly effective in providing protection in side impacts. Hybrid CRSs have no side structure and padding. The petitioner provided no information on the performance of its hybrid CRS in side impacts, or discussed the proposed side impact protection requirements. In the absence of these data and information, NHTSA denies the petition.

d. The Absence of Safety Advantages

As discussed in this section, NHTSA disagrees with the petitioner's assertions that hybrid CRSs have advantages over car safety seats.

1. The petitioner states that the "greater fore-aft bulk" due to the "rigid junction" reduces "the available space for head excursion" and increases the risk of neck or head injury to the child." Jewkes believes because a hybrid CRS lacks a rigid junction, there is increased available space for head excursion which reduces the risk of neck or head injury.

NHTSA's Response: Jewkes failed to provide supporting data demonstrating that the increased headspace for head excursions (stemming from a hybrid CRS's initial placement of the child's head closer to the vehicle seat back) offsets the increased risk of head and neck injury resulting from removing the limit on head excursions in the hybrid CRS's untethered condition. If the consumer does not attach the tether of a hybrid CRS--and data indicate the potential that many will not--there is a high likelihood the child's head will impact an object or surface that can cause injury, such as the seat back, B-pillar, or another passenger.

2. The petitioner states that the rigid junction introduces stiffer materials, increasing the "mass and expense of the car-seat." Jewkes believes that the increased mass "often limits the permissible child weight to barely over 40 pounds as the combined load limit for lower anchors has been proposed at 65 pounds."¹⁵

¹⁵ The petitioner refers to FMVSS No. 213 labeling requirements instructing the consumer to use the lower anchorages of a child restraint anchorage system only while the child's weight plus the weight of the CRS is under

NHTSA's Response: The petitioner did not provide any information about the “mass and expense” of a hybrid CRS. NHTSA does not view the possible longer use by children of the FMVSS No. 225 system when in a hybrid CRS as a relevant factor. When the weight of a car safety seat plus the child exceeds 65 pounds, the CRS manufacturer instructs the consumer to install the car safety seat using a seat belt instead of the FMVSS No. 225 system. A car safety seat installed with a seat belt is also used with the tether, just as it is with an FMVSS No. 225 system.

More importantly, NHTSA does not view the ability of a hybrid CRS to use the FMVSS No. 225 system longer as a factor that outweighs the safety concerns discussed above. If a consumer does not attach the tether of a hybrid CRS, there would be a significantly higher risk of head injury compared to that of a child in an untethered car safety seat. Car safety seats are required to restrict head excursions when untethered. Under the sought-after amendment, an untethered hybrid CRS would have no restriction on head excursion and would not provide the same protection. Further, a hybrid CRS does not provide any head, thorax, pelvic or leg protection in side impacts even when tethered--whereas car safety seats can and do provide such protection. NHTSA does not view a hybrid CRS's longer use of the FMVSS No. 225 system as relevant or advantageous to safety.

3. The petitioner believes that a hybrid CRS would “significantly simplify access” to the lower anchorage bars of an FMVSS No. 225 system or to (lap) belt routing paths since it is less bulky than a car safety seat, which would make a tight installation of the hybrid CRS easier to achieve.

65 pounds. NHTSA requires the label (S5.5.2(l)(3)) to ensure that the lower anchorages will not be overloaded by loads that could potentially be imposed by heavier CRSs and heavier children in very severe crashes. FMVSS No. 225 requires vehicle manufacturers to install a child restraint anchorage system in rear seating positions of passenger vehicles. For simplicity, this document will refer to the child restraint anchorage system as the “FMVSS No. 225 system.”

NHTSA's Response: The petitioner provides no data supporting its assertions. Data available to NHTSA indicate that there are vehicle¹⁶ and CRS features¹⁷ that affect the correct, tight installation of CRSs, such as the kind of connector used to attach to the FMVSS No. 225 system, the forces needed to attach the connectors, the position of the lower anchorages relative to the vehicle seat cushion and seat back, the location of the seat belt buckle stalk, and the presence of components that assist in tightening a seat belt used to attach the CRS. The bulk of the CRS back is not among the identified factors.

4. The petitioner states that caregivers may prematurely graduate their children to [belt-positioning booster seats (BPB)] or vehicle belts “to avoid the expense of, or difficulty traveling with, a forward-facing car-seat [sic] following the baby, convertible or combination seats.” The petitioner asserts that a hybrid CRS would reduce the number of users graduating their children to booster seats prematurely.

NHTSA's Response: NHTSA recommends that from birth to 12 months, children ride in a rear-facing car seat, and from 1 to 3 years they should be rear-facing as long as possible and then move to a harnessed forward-facing seat (car safety seat with tether) when they outgrow the rear-facing seat. From ages 4 to 7, children should ride in the harnessed forward-facing car safety seat (with tether) until they outgrow the seat, then ride in a booster seat. From ages 8 to 12, children should be in a booster seat until they are big enough to fit a vehicle seat belt properly.¹⁸

The petitioner provides no data supporting its assertion that consumers prematurely transition their children into boosters or belts to avoid the cost of purchasing a car safety seat or a

¹⁶ Klinich, K., et al. “Effects of Vehicle Features on CRS Installation Errors,” DOT HS 811626, July 2012. <https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/811626.pdf>.

¹⁷ Id.

¹⁸ NHTSA's Car Seat Recommendations can be found at <https://www.nhtsa.gov/equipment/car-seats-and-booster-seats#age-size-rec>.

booster seat, respectively, or to avoid difficulties traveling with such CRSs.¹⁹ It provides no information supporting its claim that its product would reduce premature graduation.

NHTSA did not find information on reasons consumers transition toddlers to boosters prematurely. The Agency did find a 2008 Australian study²⁰ on factors associated with premature graduation of children into seat belts. The study showed that children who were moved prematurely into a seat belt were more likely to be older/heavier, have other children travelling in the vehicle and have younger parents compared to children appropriately restrained in a booster seat. In this study, parents identified the following reasons for moving a child into a seat belt:

- Child was too big for toddler/booster seat (27 percent)
- Child was old enough to not slide out of seat belt unaided (19 percent)
- Child had reached the upper weight limit of the CRS with integral harness/booster seat (14 percent)
- Child would be more comfortable in a seat belt (12 percent)
- Child disliked toddler/booster seat or feels too grown up for CRS with integral harness/booster seat (8 percent)
- Child would be safer in a seat belt (4 percent)
- Needed toddler/booster seat for another child (1 percent)
- Other (24 percent)

These reasons did not include the desire to avoid costs of another CRS or the difficulty in traveling with CRSs. Given what is known, NHTSA cannot agree with the petitioner's view that hybrid CRSs would prevent premature graduation into a booster or belt system.

¹⁹ The petitioner provided no information on the price difference between hybrid CRSs and car safety seats. There are some inexpensive options of car safety seats in the U.S. market, as their prices range from \$60 to over \$300.

²⁰ Koppel, S., et al. "Factors associated with the premature graduation of children into seatbelts," Monash University Accident Research Center. Accident Analysis & Prevention. March 2008.
<https://www.sciencedirect.com/science/article/pii/S0001457507001510>.

5. The petitioner states that “people with multiple CRS users would be able to place up to three hybrid CRSs side-by-side, such that compromising the child’s safety can be avoided” by avoiding premature graduation to a booster seat or to the adult belt system.

NHTSA’s Response: The petitioner did not provide any information supporting its view. Fitting three CRSs side-by-side does not offset the concern that hybrid CRSs provide a reduced degree of occupant protection than car safety seats. In addition, NCRUSS²¹ data show that few consumers are faced with this issue. The NCRUSS data show that only 1.4 percent of vehicles had CRSs adjacently installed. Specifically, NCRUSS found that of the 4,132 vehicles with children 9 years old or younger in the second row, 329 vehicles (8 percent) had two children in car seats in the second row—of these, 293 vehicles (7 percent) had the two children in the outboard seating positions and 36 vehicles (*0.9 percent*) had the two children in adjacent seating positions, (one in an outboard seating position and one in the center seating position). Twenty vehicles (*0.5 percent*) of the 4,132 vehicles had three children seated in a CRS in the second row—of these, 8 vehicles (0.2 percent) had three children in car safety seats, 1 vehicle (0.025 percent) had 2 car safety seats and a booster seat and 11 vehicles (0.26 percent) had 2 booster seats and 1 car safety seat.

e. Denial of Request to Consider Hybrid CRSs as Harnesses

Products meeting the definition of a “child restraint system” must meet the requirements of FMVSS No. 213. In some instances, sub-groups of child restraints (e.g., car beds, booster seats, harnesses) are subject to specialized requirements or are excluded from a requirement. The standard currently does not subject harnesses to the untethered test requirement (S5.1.3.1(a)(1)). Harnesses have also been excluded from NHTSA’s proposal establishing side impact protection requirements for children in child restraints.²²

²¹ National Child Restraint Use Special Study, *supra*.

²² 79 FR 4570; January 28, 2014, *supra*.

S4 defines a “harness” as “a combination pelvic and upper torso child restraint system that consists primarily of flexible material, such as straps, webbing or similar material, and that does not include a rigid seating structure for the child.” The petitioner’s hybrid CRS does not meet the current harness definition as it has a rigid seating structure.²³

Jewkes suggests amending the definition along the lines of the following: “An add-on forward facing CRS with five-point harness using a combination of flexible materials connecting a rigid seat-bottom to a seat-back structure.” The effect of the suggested wording would be to exclude the petitioner’s hybrid CRS from the untethered test requirement and the proposed side impact protection requirement.

NHTSA is denying the request. NHTSA considers harnesses to be a niche product that is not widely used in private vehicles.²⁴ NHTSA’s Car Seat Recommendations, *supra*, do not mention harnesses at all in guiding consumers on how best to restrain children in motor vehicles. Because FMVSS No. 213 does not apply the same safety requirements to harnesses that it does to car safety seats, children are generally not as protected in harnesses in the general motor vehicle population as they are in car safety seats. NHTSA believes that a hybrid CRS with the rigid seating structure would not look as different from forward-facing car safety seats as a harness does. The Agency is concerned that consumers might purchase hybrid CRSs thinking that they afford the same protection as a traditional car safety seat, which is not the case. NHTSA declines to expand the harness definition to allow market entrance of a kind of CRS that does not provide equivalent crash protection to a car safety seat. The suggested amendment

²³ See also September 21, 2016, letter to Mr. Charles Vits, (CRS with a booster seating structure is not a harness), <https://isearch.nhtsa.gov/files/14-001678%20IMMI%20STAR%20crs.htm>.

²⁴ NHTSA is aware of a niche market for harnesses for use on large school buses to restrain preschoolers, children needing help sitting upright, and children needing to be physically restrained because of physical or behavioral needs. See 79 FR at 4576 (harnesses excluded from side impact proposal); 69 FR 10928, March 9, 2004 (“seat-mounted” harnesses permitted for school bus seats). In the school bus environment, there is assurance that harnesses will be correctly used, as school bus drivers and monitors receive training to ensure harnesses are properly attached to the school bus seat and that passengers are all properly restrained.

would provide caregivers a false sense of security about the level of crash protection provided their children.²⁵

In accordance with 49 CFR Part 552, NHTSA hereby denies Jewkes' February 21, 2017 petition.

Authority: 49 U.S.C. 322, 30111, 30115, 30117 and 30166; delegation of authority at 49 CFR 1.95 and 501.8.

Raymond R. Posten
Associate Administrator for Rulemaking

Billing Code: 4910-59-P

[49 CFR 571.213, Child restraint systems, Denial of petition for rulemaking, Jewkes Biomechanics]

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²⁵ Additionally, expanding the definition to allow entry into the general marketplace of a CRS that does not "improve the protection of children seated in child restraint systems during side impact crashes" (MAP-21 section 31501(a)) would not be consistent with Congress's intent in enacting section 31501.